

6.9 Cost sharing

6.9.1 Generalised economic and cost sharing approach

Designing appropriate funding of public investments involves the recognition of responsibilities or duty of care of each stakeholder group, consideration of the type of impact (e.g. point source pollution versus diffuse non-point source pollution), recognition of the costs and benefits faced by each stakeholder group as a result of the option, followed by negotiation between stakeholders for final agreement on appropriate cost shares. Given that salinity impacts are diffuse and difficult to

monitor to determine *who* is impacting most on salinity, and the lack of legal instruments to encourage control at the source, it is recommended that a beneficiary pays approach is used for the management of salinity in the region.

Where sufficient information exists, an economic analysis of recommended on-ground works has been conducted, which helps to inform the priorities for adoption and the cost sharing arrangements. The economic and cost sharing analysis for these options is detailed in Sinclair Knight Merz (2004) and summarised in the various program descriptions below. However, many of the recommended programs outlined in this plan require substantial research and investigation prior to the adoption of on-ground works. Consequently, many of the recommended on-ground works do not have a base level of information on their potential costs and benefits from which to base an economic benefit cost analysis. Given that this is the case, it is recommended that the following approach be taken for future assessment:

- 1) Based on the perceived risk of salinity impacts and potential program performance, undertake basic research to provide initial information on the benefits and costs of program implementation.
- 2) Once initial benefits and costs have been assessed, consider: ‘Does the current cost and future risk of salinity, and the potential ability to mitigate, outweigh the costs of program implementation?’ This question should be answered from a triple-bottom-line (economic, social and environmental) perspective. Outline gaps in information, the potential benefit of the information to inform the current and other natural resource management decisions, and costs to collect information.
- 3) If the initial assessment warrants further investigation, undertake more detailed research to refine the benefits and costs of program implementation. Once information is collected, undertake a detailed assessment of options from economic, social and environmental perspectives. The assessment should be based on all costs and benefits of implementation and include estimates of intangible costs and benefits where appropriate.
- 4) If the program is accepted in principle for future implementation, develop an appropriate cost sharing framework based on identification of causal factors and the duty of care of contributors. If a ‘beneficiary pays’ approach is preferred, then the public cost share should primarily be based on the public benefits with consideration also given to a financial analysis of the activity from each participant’s perspective.

During the course of undertaking the above steps, the process lends itself to the refinement of options to maximise the potential net gains of the program.

6.9.2 Cost sharing for management actions

The recommended cost sharing arrangements for the management actions to address irrigation salinity, dryland salinity, ocean-induced salinity and surface water salinity are given in Table 59, Table 60, Table 61 and Table 62 respectively and for community and agency engagement in Table 63. The justification for the cost sharing arrangements is given in Appendix F.

■ **Table 59: Cost sharing for Management Actions to address irrigation salinity**

MAT Number	Management Action	Local Government	Federal/ State Government	Irrigators	Local Beneficiaries	Comments
IA1	To compile Irrigation Farm Plans over an additional 2,100ha/yr over 10 years or approx 20-30 plans per year		E: 100% O: 75%	O: 25%		Current rebate to landowners of 75% of the cost of a WFP to a maximum of \$82.50/ha should remain unchanged
IA2	To convert 800 Ha/year of flood irrigation to spray irrigation		E:100% O:15%	I:85%		Current split of 15%/85% Govt/Irrigator should be reviewed in light of further discussions with stakeholders on public/private benefits and financial viability to landowner
IA3	50 Ha/year of flood irrigation converted to high flow rate flood irrigation = 250ha over 5 years		E:100%	I:100%		
IA4	All new irrigation developments using efficient irrigation techniques with minimal off-site impact		E:100%	I:100%		
IA5	Investigation work completed and extension program begun into 'safe salinity' model		I:100%			
IB1	Research and investigation work completed and extension program commenced into perennial pasture and tree establishment		I:100%		O:100%	
IB2	Tree planting in dryland areas adjacent to irrigated areas		I:100%		O:100%	
IC1.1	Continue operation and maintenance of 19 existing pumps on an as needs basis	O:20%		O:80%		This is a change to the current cost share of the O&M costs of Groundwater Control Pumps protecting dryland agriculture (see Appendix F)
IC1.2	Install 2 new Groundwater Control Pumps and continue investigating pump viability at 5 additional sites		I/O:100%			
IC1.3	Investigate 5 sites for additional groundwater control pumps, review alternative disposal options for existing pumps and investigate the potential for use of alternative power sources		I/O:100%			
IC2a	3 TEDS investigations per year starting 2005/06		O:100% less \$825		O:\$825	
IC2b	3 Capital Grants Scheme per year starting 2005/06		O:~35% (see below)		O:~65% (see below)	
IC3	Free flowing bores reviewed and recommended actions implemented		I&O:100%			
IC4	Tile and mole drains reviewed and recommended actions implemented		I&O:100%			
ID1	MID drain management plan complete and implemented		I&O:100%			
ID2	Research into viability of community drains complete		I:100%			Study will include an economic assessment of cost sharing
IE1	Landowners around Groundwater Control Pumps provided with advice on rehabilitation of salinity affected land		E:100%		O:100%	
IE2	Review of suitable salt tolerant crops and pastures complete and extension program in place		I:100%		O:100%	
IE3	Review of alternative uses of saline land and water complete and recommendations implemented		I&O:100%			
IF1.1	Continuation of current observation bore monitoring		I:100%			

MAT Number	Management Action	Local Government	Federal/ State Government	Irrigators	Local Beneficiaries	Comments
IF1.2	Create yearly watertable depth maps for all irrigated SMAs, analyse and report to stakeholders, 5-yearly reports on trends		I/E: 100%			
IF1.3	Create annual watertable depth map for Sale township	I/E: 50%	I/E: 50%			
IF2.1	Continue program of soil salinity monitoring around Groundwater Control Pumps		I: 100%			
IF2.2	5-yearly reports on soil salinity around Groundwater Control Pumps		I/E: 100%			
IF3	New vegetation establishment to be compared to areas identified for salinity action		I/E: 100%			

I = Investigation costs

O = On-ground implementation costs

E = Extension costs

■ **Table 60: Cost sharing for Management Actions to address dryland salinity**

MAT Number	Management Action	Local Government	Federal/ State Government	Local Beneficiaries	Comments
DA1	All land salinity mapping of remainder of Bengworden, Lake Reeve, the area south of Wonthaggi, the Bass Hills and the Powlett catchment complete and informing management option planning		I: 100%		
DA2	Urban salinity study for West Gippsland townships completed and informing management options for remediation of urban salinity		I: 100%		
DA3	Groundwater flow systems study completed and used to determine site specific action plans incorporating salinity, biodiversity and other issues		I: 100%		
DA4	Expected effects of the various management actions recommended in the GFS study (DA3) quantified. Management actions modified and fed into existing farm forestry, native vegetation and agronomic programs		I:100%		
DA5	Capability of land for management actions recommended in DA3 and DA4 assessed. Economics of implementation assessed. Management actions modified and fed into existing programs		I:100%		
DA6	Methods for building community capacity to implement change reviewed and innovative methods for program delivery developed. Management actions modified and fed into existing programs		I:100%		
DA7	Set of on-ground actions developed for each salinised area to address a number of NRM issues		I:100%		
DB1-4	Education and extension programs to increase uptake of Whole Farm Plans and ensure that vegetation incentives be contingent on having a Whole Farm Plan		I: 100% E: 100%	O:100%	
DC1	Extent of perennial pastures in key recharge areas determined		I:100%		
DC2	Plan for perennial pasture establishment complete and extension program in place.	O: To be decided	I: 100% O: To be decided	O: To be decided	Cost sharing appropriate between Government and landowners– economic study required to determine appropriate cost share
DD1	Economics and cost sharing study for encouraging farm forestry completed. Financial incentive program in place supported by extension program		I: 100% O: To be decided	O: To be decided	Cost sharing appropriate between Government and landowners – economic study required to determine appropriate cost share
DD2	Prioritisation process for current revegetation projects changed to strengthen the salinity benefits from tree planting. Extension program in place to encourage tree planting		I: 100% E:100% O: As per current	O: As per current programs	
DD3	Provide input and support for current programs of native vegetation protection		I/E: 100%		
DE1	Economic studies complete and groundwater pumping options for Rosedale and Port Albert investigated	I: To be determined	I: To be determined		There is strong justification for Local Government to contribute to the investigation costs for urban salinity
DE2	Targeted Exploration Drilling Scheme and Capital Grants Scheme		I and O: As per MID program	I and O: As per MID program	

MAT Number	Management Action	Local Government	Federal/ State Government	Local Beneficiaries	Comments
DF1	Investigation program complete and extension program in place for salt tolerant crops		I: 100% E: 100%		
DF2	Feasibility study into buy back of saline land complete and recommendations implemented		I: 100% O: 100%		
DG1.1	Continuation of current observation bore monitoring, implementation of monitoring review recommendations for South Gippsland, monitoring of new bores to be drilled in Seaspray and Port Albert		I: 100% O: 100%		
DG1.2	Creation of yearly watertable depth maps for South Gippsland and Port Albert and Seaspray townships, analyse and report to stakeholders, 5 yearly reports on trends	I/E: 50%	I/E: 50%		

I = Investigation costs

O = On-ground implementation costs

E = Extension costs

■ **Table 61: Cost sharing for Management Actions to address ocean induced salinity**

MAT Number	Management Action	Local Government	Federal/ State Government	Local Beneficiaries	Comments
CA1.1	Completion of input to Dowd Morass and Lake Coleman Water Management Plans being developed by Parks Victoria. Completion of feasibility study into engineering structure in McLennan Straits and beginning of implementation if found to be feasible		I: 100% O:100%		
CA1.2	Feasibility study into engineering options for Clydebank Morass and Dowd Morass completed.		I: 100%		
CA1.3	Implementation of agreed engineering structures for Dowd Morass and Clydebank Morass if studies find them to be feasible		O: 100%		
CA2	Drainage plans completed and implemented for key coastal areas affected by salinity		I: 100% O: to be determined	O: To be determined	Drainage plans will recommend an appropriate cost sharing arrangement which is likely to include a significant contribution from local beneficiaries

I = Investigation costs

O = On-ground implementation costs

E = Extension costs

■ **Table 62: Cost sharing for Management Actions to address surface water salinity**

MAT Number	Management Action	Local Government	Federal/ State Government	Local Beneficiaries	Comments
SA1	Research and investigation work complete including prioritisation of wetlands for further work. Monitoring regimes established in priority wetlands, management options investigated and implementation of management options commenced		I:100% O:100%		
SA2	Complete characterisation of surface water quality issues and prioritisation of key river reaches for implementation of management options		100%		
SB1	Environmental flow assessments complete. Stream flow Management Plans complete for Avon and Tarra Rivers		100%		
SC1.1	Continuation of current surface water monitoring		I: 100%		
SC1.2	Complete 2-yearly report on compliance with SEPP of receiving waters pumps are discharging to, 5-yearly reports for other waterways		I/E: 100%		
SC2.1	Continued spot salinity monitoring of Clydebank Morass. More intensive monitoring may be required prior to salinity control option implementation		I: 100%		
SC2.2	Yearly reporting on salinity and trends in Clydebank Morass to commence once control options are implemented		I/E: 100%		
SC3.1	Continued monitoring of bores in and around Dowd Morass, and current continuous salinity and level monitoring		I: 100%		
SC3.2	Yearly reporting on salinity and trends in Dowd Morass to commence once control options are implemented		I/E: 100%		
SC4	Monitoring of other wetlands to be addressed following prioritisation		I: 100%		

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O = On-ground implementation costs

E = Extension costs

■ **Table 63: Cost sharing for Community and Agency Engagement Management Actions**

MAT Number	Management Action	Local Government	Federal/ State Government	Local Beneficiaries	Comments
CAE1	Develop a Local Government Authority engagement plan		100%		
CAE2	Integrate community education on salinity with existing programs such as Landcare, Saltwatch and Waterwatch and field days as well as through the Whole Farm Planning and Irrigation Farm Planning processes		100%		
CAE3.1	Ensure all research and investigation projects, any significant strategic planning activities and significant on-ground activities have a communication strategy to ensure the results are communicated to the community		100%		
CAE3.2	Publicise successes of the Salinity Program more widely, especially the outcomes of the Groundwater Pumping Program in and around the MID		100%		
CAE4	Develop a communications strategy to ensure the key messages from this plan are communicated to appropriate stakeholders and stakeholders are aware of the progress towards the plan's implementation		100%		Communications strategy funding will be built into the total budget of each project
CAE5	Run field days looking at local examples of work undertaken to address salinity		100%		
CAE6	Make educational resources available for agency staff and landholders about salinity causes, processes and management.		100%		

I = Investigation costs

O = On-ground implementation costs

E = Extension costs